$\Rightarrow u(t) = 40\sin(100\pi t)$

- $i(t) = I_m \sin(\omega_1 t + \varphi_i)$
- $\text{Im} = \dfrac{(U_R)\max}{R} = \dfrac{20}{25} = 0,8A$

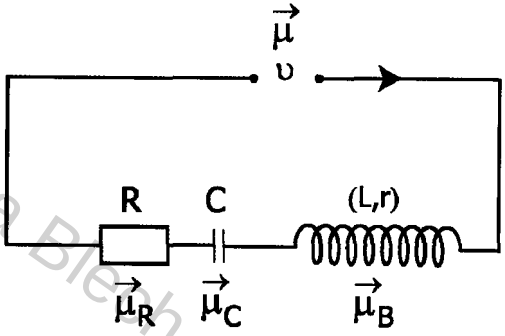
$$\varphi_u - \varphi_i = \frac{\pi}{3} \Rightarrow \varphi_i = \varphi_u - \frac{\pi}{3} = 0 - \frac{\pi}{3}$$

$$\Rightarrow \varphi_i = -\frac{\pi}{3} rad$$

$$\boxed{i(t) = 0,8\sin\left(100\pi t - \frac{\pi}{3}\right)}$$

4) $Z = \dfrac{U_m}{I_m} = \dfrac{40}{0,8} = 50\Omega$

5)



La loi des mailles

$U_R + U_C + U_B - U = 0$

$Ri + L\dfrac{di}{dt} + ri + \dfrac{1}{C}\int idt = u$

6) a- $U_{R\max} = 20v \longrightarrow \|\overrightarrow{OA}\| = 2cm$

$U_m = 40v \longrightarrow \|\overrightarrow{OC}\| = 4cm$

$\varphi_u = 0 \qquad \varphi_i = -\dfrac{\pi}{3} rad = \varphi_{u_R}$

$U_{c\max} = \dfrac{I_m}{c\omega_1} = 127,38V \longrightarrow \|\overrightarrow{AB}\| = 2,7cm$

Qarray.tn -Aqra Blech- Qarray.tn